

### REMARKS

Claims 1-28 were pending in this application at the time of the office action of April 10, 2006.

Claims 19-28 have been cancelled.

Claims 1-18 have been rejected on various grounds. The Applicants respectfully traverse these rejections as they apply to the amended claims and request reconsideration.

Claims 1 and 3 have been amended by this response.

New claim 29 is presented.

### REQUEST FOR INTERVIEW

Applicants attorney requests a telephone interview with the Examiner after he has reviewed the amendments presented herein and the arguments below. As noted below, the amendments are believed to be consistent with the Examiner's comments at least in substance. If the Examiner feels wording changes are needed for allowance, Applicant's attorney would like to discuss alternate language and consider a supplemental response or an Examiner's amendment to move the case to allowance.

### Claim Rejections – 35 USC § 102

Claims 1-5, and 8-13 have been rejected under 35 USC § 102(b) as being anticipated by US Patent 4,998,477 issued to Barker.

In the previous response, the Applicants presented amendments to claim 1 in an effort to better identify the lower seal of the detonator chamber. In view of the Examiner's response to

arguments presented with the amendment, the Applicant's have presented further amendments to claim 1 believed to be consistent with the Examiner's position.

Claim 1 has been amended to include seal members both between the detonator chamber upper sealing surface and the firing sub and between the detonator chamber lower sealing surface and the booster charge holder upper sealing surface. In the office action, the Examiner considered cooperation of a retainer 17 and a boot resulted in a pressure and fluid tight seal at the bottom of a detonator chamber. The boot of Barker is not positioned to form a seal between sealing surfaces of the Barker detonator chamber 15 and the booster charge holder 21.

In view of these amendments of claim 1, Applicants submit that claim 1 is patentable over the Barker reference. Since claims 2, and 8-18 depend from claim 1, Applicants submit that these claims are also patentable over Barker.

Claim 3 is directed to a seal boot having a first end, which first end has both inner and outer surfaces that form fluid tight seals. The inner surface forms a fluid tight seal with an outer surface of a booster charge. The outer surface forms a fluid tight seal with an inner surface of the booster charge holder.

The boot of Barker has an inner surface that is intended to form a fluid tight seal with the outer surface of the outer surface of the firing head, not a booster charge. The boot of Barker has an outer surface, but it does not form a seal of any kind with any other element. Barker does not teach or suggest forming a fluid tight seal between the boot outer surface and an inner surface of a booster charge holder.

The present disclosure teaches a number of advantages of the claimed structure, including maintaining compression of the boot, and therefore sealing properties, and shielding the boot from

ambient fluids which can weaken a boot and cause it to lose sealing properties. No such advantages are possible in the structure of Barker.

A new claim 29, depending from claim 3, is presented. Claim 29 is directed to an elastomeric boot that is sized so that when installed in the booster charge holder, it is in compression. Claim 29 is supported by numerous portions of the specification. In paragraph [0034] the boot is described as preferably made of an elastomeric material and having an outer diameter selected to form a tight fit within the booster charge holder 28. It is also described as having an inner diameter forming a fluid tight seal with the booster charge and booster holder. In paragraph [0039] is stated that: "Since the large end 64 of boot 44 is sized for a tight fit into chamber 36, it must be forced in and the grease facilitates the process. The process also applies compressional force on the boot 44 forming a fluid resistant seal between the detonating cord 42, the boot 44 and the inner surface of chamber 36."

Claim 29 is clearly different than the Barker boot which relies entirely on tension forces in the boot to form a fluid seal against outer surfaces of its detonator device. Barker's boot has an outer surface completely exposed to ambient fluids that can cause the boot to lose tensile strength and lose its seal with the detonator device.

In view of these differences, the Applicant's submit that claims 3-7 and 29 are patentable over Barker.

#### **Allowable subject matter**

The Examiner has indicated that claims 6, 7 and 14-18 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Since these claims depend from claims shown to be patentable above, Applicants submit that these claims should also be allowable as dependent claims.

**Summary**

In view of the above remarks, the Applicants submit that the claims 1-18 and 29, as amended, are now allowable and respectfully request allowance of claims 1-18, and 29.


The Commissioner is hereby authorized to charge payment of any further fees associated with any of the foregoing papers submitted herewith, or to credit any overpayment thereof, to Deposit Account No. 50-1515, Conley Rose, P.C.

If the Examiner has any questions or comments or otherwise feels it would be helpful in expediting the application, he is encouraged to telephone the undersigned at (972) 731-2288.

Respectfully submitted,  
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